

Please amend the application as follows:

In the Claims

Please amend Claim 1, 3-4, 8-12, 16-20, 24-26.

SUB B17
a1

1. (Amended) A collector for collecting non-referenced objects stored in a heap by a program executing in a computer system comprising:

- an object allocation routine which stores an object of a particular type in one of a plurality of logical partitions in the heap dependent on a predefined category for the object type; and
- a collection routine which searches one of the logical partitions for referenced objects and reclaims non-referenced objects stored in the searched logical partition.

SUB B37
a2

3. (Amended) The collector as claimed in Claim 2 wherein upon determining that a hot logical partition is full, the collection routine searches a cold logical partition and the hot logical partition for referenced objects and moves referenced objects of the hot category stored in the hot logical partition to the cold logical partition.

4. (Amended) The collector as claimed in Claim 2 wherein the sample and partition further comprises:

- a write barrier elimination routine, which eliminates a write barrier for an intergenerational pointer between an object stored in a hot [space] logical partition and an object stored in a cold logical partition.

SUB B57
a3

8. (Amended) The collector as claimed in Claim 2 wherein the sample and partition routine partitions the heap to minimize intergenerational pointers between a hot logical partition and a cold logical partition.

9. (Amended) A collector for collecting non-referenced objects stored in a heap by a program executing in a computer system comprising:

means for storing an object of a particular type in one of a plurality of logical partitions in the heap dependent on a predefined category for the object type;
means for searching one of the logical partitions for referenced objects; and
means for reclaiming non-referenced objects stored in the searched logical partition.

10. (Amended) The collector as claimed in Claim 9 further comprising:

means for partitioning the heap into a cold logical partition and a hot logical partition by defining a category of an object stored in the heap to be hot or cold.

- a3 11. (Amended) The collector as claimed in Claim 10 wherein upon determining that a hot logical partition is full, the means for searching searches a cold logical partition and the hot logical partition for referenced objects and moves referenced objects stored in the hot logical partition to the cold logical partition.

12. (Amended) The collector as claimed in Claim 10 wherein the means for partitioning further comprises:
means for eliminating a write barrier for an intergenerational pointer between an object stored in the hot logical partition and an object stored in the cold logical partition.

-
- SUB 87 16. (Amended) The collector as claimed in Claim 10 wherein the means for partitioning partitions the heap to minimize intergenerational pointers between the hot logical partition and the cold logical partition.

- a4 17. (Amended) A method for collecting non-referenced objects stored in a heap by a program executing in a computer system comprising the steps of:
storing an object of a particular type in one of a plurality of logical partitions in the heap dependent on a predefined category for the object type;
searching one of the logical partitions for referenced objects; and
reclaiming non-referenced objects stored in the searched logical partition.

18. (Amended) The method as claimed in Claim 17 further comprising the step of:
partitioning the heap into a cold logical partition and a hot logical partition by
defining hot logical partition objects and cold logical partition objects.
19. (Amended) The method as claimed in Claim 18 wherein upon determining that the hot
logical partition is full, the step of reclaiming further comprises the step of:
moving referenced objects stored in the hot logical partition to the cold logical
partition.
20. (Amended) The method as claimed in Claim 18 wherein the step of partitioning further
comprises the step of:
eliminating a write barrier for an intergenerational pointer between an object
stored in the hot logical partition and an object stored in the cold logical partition.

- SUB B97 24. (Amended) The method as claimed in Claim 18 wherein the step of partitioning
partitions the heap to minimize intergenerational pointers between the hot logical
partition and the cold logical partition.
25. (Amended) A computer system comprising:
a central processing unit connected to a memory bus by a system bus;
an I/O system, connected to the system bus by a bus interface; and
a collector for collecting non-referenced objects stored in a heap by a program
executing in a computer system, the collector:
storing an object of a particular type in one of a plurality of logical partitions in
the heap dependent on a predefined category for the type;
searching one of the logical partitions for referenced objects; and
reclaiming non-referenced objects stored in the searched logical partition.
26. (Amended) A computer program product for collecting non-referenced objects stored in
a heap by a program executing in a computer system, the computer program product